

TABLE 1.A

TABLE 1.A

EXAMPLE NUMBER	ELECTRODE MATERIAL	METALLIC OXIDE ON ELECTRODE	COMPOSITION OF DIELECTRIC GLASS LAYER (% BY WEIGHT)	DIELECTRIC CONSTANT ϵ	THICKNESS OF GLASS	THE NUMBER OF PANELS CAUSING WITH STAND VOLTAGE FAILURE IN 20 PANELS AFTER AGING ON 150V AND 30 KHZ	PANEL BRIGHTNESS cd/m ²				
			PbO	B ₂ O ₃	SiO ₂	Al ₂ O ₃	TiO ₂				
1	Ag	CVD METHOD ZnO(0.5 μ m)	78	11	10	1	0	10	13 μ m	0	515
2	Ag	CVD METHOD ZrO ₂ (0.1 μ m)	65	19	12	3	0	11	14 μ m	0	512
3	Ag	CVD METHOD MgO(0.2 μ m)	73	10	5	2	10	20	13 μ m	0	516
4	Ag	CVD METHOD TiO ₂ (0.5 μ m)	74	10	5	10	5	13	13 μ m	0	513
5	Ag	CVD METHOD SiO ₂ (2.0 μ m)	74	10	5	5	10	13	5 μ m	0	526
6	Ag	CVD METHOD Al ₂ O ₃ (1.5 μ m)	74	10	5	5	10	13	8 μ m	0	520
8	Ag	CVD METHOD Cr ₂ O ₃ (1.0 μ m)	74	10	5	5	10	13	10 μ m	0	520
9	Cr-Cu-Cr	CVD METHOD SiO ₂ (5.0 μ m)	0	0	10	0	0	—	0 μ m	1	535
10	Cr-Cu-Cr	CVD METHOD Al ₂ O ₃ (3.0 μ m)	0	0	10	0	0	—	0 μ m	1	540
11	Cr-Cu-Cr	CVD METHOD ZnO(6 μ m)	0	0	10	0	0	—	0 μ m	1	530
12	Ag	CVD METHOD Al ₂ O ₃ (0.1 μ m) SiO ₂ (0.3 μ m)	74	10	5	5	10	13	12 μ m	0	520
13	Ag	NO METALLIC OXIDE	74	10	5	5	10	13	20 μ m	10	475

TABLE 1.B

TABLE I.D

EXAMPLE NUMBER	ELECTRODE MATERIAL	METALLIC OXIDE ON ELECTRODE	COMPOSITION OF DIELECTRIC GLASS LAYER (% BY WEIGHT)					DIELECTRIC CONSTANT ϵ	THICKNESS OF GLASS	THE NUMBER OF PANELS CAUSING WITH STAND VOLTAGE FAILURE IN 20 PANELS AFTER AGING ON 150V AND 30 KHZ	PANEL BRIGHTNESS cd/m^2	
			PbO	B ₂ O ₃	SiO ₂	Al ₂ O ₃	TiO ₂					
14	Ag	CVD METHOD ZnO(0.1 μm)	45	23	22	5	5	0	12	14 μm	0	510
15	Ag	CVD METHOD ZrO ₂ (0.3 μm)	45	20	20	5	5	5	18	13 μm	0	512
16	Ag	CVD METHOD MgO(0.5 μm)	30	37	10	3	10	10	24	13 μm	0	513
17	Ag	CVD METHOD TiO ₂ (1.0 μm)	40	25	23	2	3	7	20	12 μm	0	515
18	Ag	CVD METHOD SiO ₂ (1.0 μm)	"	"	"	"	"	"	"	11 μm	0	515
19	Ag	CVD METHOD Al ₂ O ₃ (0.5 μm)	"	"	"	"	"	"	"	12 μm	0	514
20	Ag	CVD METHOD Cr ₂ O ₃ (0.3 μm)	"	"	"	"	"	"	"	12 μm	0	514
21	Cr-Cu-Cr	CVD METHOD ZnO(6 μm)	0	0	0	0	0	0	—	0	1	520
22	Cr-Cu-Cr	CVD METHOD Cr ₂ O ₃ (5 μm)	0	0	0	0	0	0	—	0	2	519
23	Ag	CVD METHOD SiO ₂ (0.5 μm) TiO ₂ (0.2 μm)	40	25	23	2	3	7	20	10 μm	0	520
24*	Ag	NO METALLIC OXIDE	40	25	23	2	3	7	20	15 μm	8	480

* EXAMPLE NUMBER 13 AND 24 FOR COMPARISON

TABLE 2

TABLE 2 GLASS SUBSTRATE											
EXAMPLE NUMBER	PRODUCT NAME	MANUFACTURER	DISTORTION POINT (°C)	SPECIFIC GRAVITY OF GLASS (g/cm ³)	THERMAL EXPANSION COEFFICIENT (× 10 ⁻¹ /°C)	COMPOSITION OF GLASS (% BY WEIGHT) * RO(MgO, CaO, SrO, BaO) ** R2O(Na2O, K2O)					THICKNESS OF GLASS SUBSTRATE (mm)
						SiO2	Al2O3	B2O3	RO* (ALKALINE EARTH)	R2O* (ALKALI)	
25	OA-2	NIHON ELECTRIC GLASS CO.	650	2.73	47	56	15	2	27	0	1.0
26	OA-2	NIHON ELECTRIC GLASS CO.	650	2.73	47	56	15	2	27	0	0.7
27	BLC	NIHON ELECTRIC GLASS CO.	535	2.36	51	72	5	9	7.5	6.5	1.5
28	BLC	NIHON ELECTRIC GLASS CO.	535	2.36	51	72	5	9	7.5	6.5	1.0
29	NA45	NH TECHNO GLASS CO.	610	2.78	46	49	11	15	25	0	1.0
30	NA45	NH TECHNO GLASS CO.	610	2.78	46	49	11	15	25	0	0.5
31	NA-35	NH TECHNO GLASS CO.	650	2.50	39	56	15	2	27	0	1.5
32	NA-35	NH TECHNO GLASS CO.	650	2.50	39	56	15	2	27	0	0.1
33*	SODALIME GLASS(AS)	ASAHI GLASS CO.	511	2.49	85	72.5	2	0	12	13.5	2.7
34*	SODALIME GLASS(AS)	ASAHI GLASS CO.	511		85	72.5	2	0	12	13.5	1.5
35*	PD-200	ASAHI GLASS CO.	570	2.77	84	58	7	0	21	14	2.7
36*	PD-200	ASAHI GLASS CO.	570	2.77	84	58	7	0	21	14	1.5

* EXAMPLE NUMBER 9-12 FOR COMPARISON

TABLE 3

EXAMPLE NUMBER	DIELECTRIC LAYER		PROTECTING LAYER (FORMING METHOD AND FACE ORIENTATION)	PARTITION WALL (FORMING METHOD AND MATERIAL)	PANEL WEIGHT (WITHOUT CIRCUIT)	PANEL STATE DURING OPERATION	CHANGING RATE OF PANEL BRIGHTNESS AFTER OPERATION ON 200V FOR 5000H(%)
	FORMING METHOD	COMPOSITION OF DIELECTRIC LAYER (% BY WEIGHT)	EXPANSION COEFFICIENT ($\times 10^{-7}/^{\circ}\text{C}$)				
25	THERMAL SPRAYING METHOD	PbO(30), B ₂ O ₃ (20), SiO ₂ (45), Al ₂ O ₃ (5)	45	THERMAL CVD METHOD MGO WITH (100)-FACE ORIENTATION	3.0kg	NO CRACK IN DIELECTRIC GLASS	-2.9
26	THERMAL CVD METHOD	Al ₂ O ₃	70	THERMAL CVD METHOD MGO WITH (100)-FACE ORIENTATION	2.1kg	NO CRACK IN DIELECTRIC GLASS	-2.5
27	THERMAL SPRAYING METHOD	P ₂ O ₅ (45), ZnO(34), Al ₂ O ₃ (18), CaO(3)	50	PLASMA CVD METHOD MGO WITH (100)-FACE ORIENTATION	3.9kg	NO CRACK IN DIELECTRIC GLASS	-2.8
28	PLASMA CVD METHOD	3Al ₂ O ₃ · 2SiO ₂	50	PLASMA CVD METHOD MGO WITH (100)-FACE ORIENTATION	2.6kg	NO CRACK IN DIELECTRIC GLASS	-2.7
29	THERMAL SPRAYING METHOD	PbO(30), B ₂ O ₃ (20), SiO ₂ (45), Al ₂ O ₃ (5)	45	PLASMA CVD METHOD MGO WITH (100)-FACE ORIENTATION	3.1kg	NO CRACK IN DIELECTRIC GLASS	-2.7
30	THERMAL SPRAYING METHOD	P ₂ O ₅ (45), ZnO(34), Al ₂ O ₃ (18), CaO(3)	50	PLASMA CVD METHOD MGO WITH (100)-FACE ORIENTATION	1.54kg	NO CRACK IN DIELECTRIC GLASS	-2.6
31	PLASMA CVD METHOD	SiO ₂	30	PLASMA CVD METHOD MGO WITH (100)-FACE ORIENTATION	4.1kg	NO CRACK IN DIELECTRIC GLASS	-2.9
32	PLASMA CVD METHOD	SiO ₂	30	PLASMA CVD METHOD MGO WITH (100)-FACE ORIENTATION	0.28kg	NO CRACK IN DIELECTRIC GLASS	-3.0
33*	THERMAL SPRAYING METHOD	PbO(30), B ₂ O ₃ (20), SiO ₂ (45), Al ₂ O ₃ (5)	45	PLASMA CVD METHOD MGO WITH (100)-FACE ORIENTATION	7.4kg	CRACK IN DIELECTRIC SUBSTANCE	CRACK IN PANEL
34*	PLASMA CVD METHOD	Al ₂ O ₃	70	PLASMA CVD METHOD MGO WITH (100)-FACE ORIENTATION	4.1kg	CRACK IN PANEL	—
35*	THERMAL SPRAYING METHOD	P ₂ O ₅ (45), ZnO(34), Al ₂ O ₃ (18), CaO(3)	50	PLASMA CVD METHOD MGO WITH (100)-FACE ORIENTATION	8.3kg	CRACK IN DIELECTRIC SUBSTANCE	CRACK IN PANEL
36*	PLASMA CVD METHOD	SiO ₂	30	PLASMA CVD METHOD MGO WITH (100)-FACE ORIENTATION	5.0kg	CRACK IN PANEL	—

* EXAMPLE NUMBER 9-12 FOR COMPARISON

United States Patent & Trademark Office
Office of Initial Patent Examination

Application papers not suitable for publication

SN 0996 4837

Mail Date 09/26/01

- ☐ Non-English Specification
- ☒ Specification contains drawing(s) on page(s) _____ or table(s) pages 16 to 58
- ☐ Landscape orientation of text ☐ Specification ☐ Claims ☐ Abstract
- ☐ Handwritten ☐ Specification ☐ Claims ☐ Abstract
- ☐ More than one column ☐ Specification ☐ Claims ☐ Abstract
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- ☐ Claims not on separate page(s)
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- ☐ Improper paper size -- Must be either A4 (21 cm x 29.7 cm) or 8-1/2"x 11"
- ☐ Specification page(s) _____ ☐ Abstract
- ☐ Drawing page(s) _____ ☐ Claim(s)
- ☐ Improper margins
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| <input type="checkbox"/> Paper too thin | <input type="checkbox"/> Specification page(s) _____ |
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